

Amendments to the Claims

The following listing of the claims will replace all prior versions, and listings of the claims in the application:

Listing of Claims

1. (Currently amended) A transmission apparatus for video information characterized by having:

an input part for inputting video information transmitted by a central processing unit;

a level information generation part for generating level information of each pixel on a screen based on at least said video information;

a memory part for storing the level information of each pixel in the entire region of the screen:

a region extraction part for extracting a changed region which is a region on the screen including pixels related to said video information;

an update region level information generation part for generating level information of each pixel in said changed region ~~of the screen~~ based on, at least, either the level information of each pixel generated by said level information generation part or the level information of each pixel stored in said memory part;

a compression part for compressing the information amount of level information of each pixel in said changed region ~~of the screen~~; and

a communication part for transmitting position information of said changed region ~~of the screen~~ and said compressed level information.

2. (Currently amended) A The transmission apparatus for video information according to claim 1 characterized ~~by having in that:~~

~~an input part for inputting video information transmitted by a central processing unit;~~

~~a level information generation part for generating level information of each pixel on a screen based on at least said video information;~~

a memory part for storing level information of each pixel in the entire region of the screen;

a region extraction part for extracting a region on the screen including pixels related to said video information;

said update region level information generation part for ~~generating~~ generates differential information of the level information of each pixel in said ~~extracted~~ changed region of the screen extracted based on, at least, the level information of each pixel generated by said level information generation part and the level information of each pixel stored in said memory part; ~~and~~

a said compression part for ~~compressing~~ compresses ~~the information amount of the differential information of the level information of each pixel in said extracted region of the screen;~~ and

~~a communication part for transmitting position information of said region of the screen and said compressed differential information.~~

3. (Currently amended) A The transmission apparatus for video information according to claim 1, characterized in that said ~~extracted~~ changed region ~~of the screen~~ is a region in a rectangular form including pixels of m rows and n columns (m, n are positive integers of 1 or more, respectively).

4. (Currently amended) A The transmission apparatus for video information according to claim 3, characterized in that said ~~extracted~~ changed region ~~of the screen~~ is a set of pixels wherein the upper i bits of the row address (in the case that the row address is assumed to be data of h bits, i is a positive integer satisfying $1 \leq i \leq (h-1)$) and the upper j bits of the column address (in the case that the column address is assumed to be data of k bits, j is a positive integer satisfying $1 \leq j \leq (k-1)$) of each pixel on the screen are the same.

5. (Currently amended) A The transmission apparatus for video information according to claim 1, characterized in that said communication part is a wireless communication part.

6. (Currently amended) A The transmission apparatus for video information

according to claim 1, characterized, in addition, in that:

said memory part outputs level information of each pixel in the entire region of the screen to said update region level information generation part at least once or more, for every constant period of time;

said compression part compresses the information amount of the level information of each pixel in said entire region of the screen: and

said communication part transmits identification information for identifying said compressed level information of the entire region of the screen from said compressed level information of the changed region ~~of the screen~~ or from said compressed differential information of the changed region as well as said compressed level information of the entire region of the screen.

7. (Currently amended) A transmission system for video information characterized by having:

a first terminal apparatus including a central processing unit and a transmission apparatus for video information according to claim 1; and

a second terminal apparatus, wherein which is a terminal apparatus according to claim 19. ~~said second terminal apparatus has:~~

~~a communication part for receiving position information of said region of the screen and said compressed level information;~~

~~an expansion part for expanding said compressed level information and outputs level information of each pixel in the extracted region of the screen;~~

~~a memory part which stores the level information of each pixel in the entire region of the screen and which stores the level information of each pixel outputted by said expansion part in accordance with the position information of said region of the screen; and~~

~~a display part for displaying a screen in accordance with the level information of each pixel stored in said memory part.~~

8. (Currently amended) A transmission system for video information characterized by having:

a first terminal apparatus including a central processing unit and a transmission apparatus for video information according to claim 2; and

a second terminal apparatus, ~~wherein~~ which is a terminal apparatus according to claim 20. ~~said second terminal apparatus has:~~

~~a communication part for receiving position information of said region of the screen and said compressed differential information;~~

~~an expansion part for expanding said compressed differential information and generates differential information of each pixel in the extracted region of the screen;~~

~~memory part which stores the level information of each pixel in the entire region of the screen and which stores the level information of each pixel generated by the level information generation part in accordance with the position information of said region of the screen;~~

~~said level information generation part for generating level information of each pixel based on the differential information of each pixel generated by said expansion part and the level information of each pixel stored in said memory part; and~~

~~a display part for displaying a screen in accordance with the level information of each pixel stored in said memory part.~~

9. (Currently amended) A The transmission system for video information according to claim 7, characterized in that said communication parts of said first terminal apparatus and said second terminal apparatus are wireless communication parts, respectively.

10. (Currently amended) A transmission method for video information, characterized by the steps of having:

~~the input step of~~ inputting video information transmitted by a central processing unit;

~~the level information generation step of~~ generating level information of each pixel on a screen based on, at least, said video information;

~~the memory step of~~ storing said level information of each pixel in a memory part;

~~the region extraction step of~~ extracting a changed region which is a region of the screen ~~which includes~~ including pixels related to said video information;

~~the update region level information generation step of~~ generating level information of each pixel in said changed region of the screen based on, at least, either the level information of each pixel generated in said level information generation step or the level information of each pixel

stored in said memory ~~part~~ step;

~~the compression step of compressing the information amount of the level information of each pixel in said changed region of the screen;~~ and

~~the transmission step of transmitting position information of said changed region of the screen and said compressed level information.~~

11. (Currently amended) A The transmission method for video information according to claim 10, characterized in that ~~by having:~~

~~the input step of inputting video information transmitted by a central processing unit;~~

~~the level information generation step of generating level information of each pixel on a screen based on, at least, said video information;~~

~~the region extraction step of extracting a region of the screen which includes pixels related to said video information;~~

~~the update region level information generation step of generating generates differential information of level information of each pixel in said extracted changed region extracted of the screen based on, at least, the level information of each pixel generated in said level information generation step and the level information of each pixel stored in a memory ~~part~~; and~~

~~the memory step of storing said level information of each pixel in said memory ~~part~~;~~

~~the compression step of compressing compresses the information amount of the differential information of the level information of each pixel in said extracted region of the screen; and~~

~~the transmission step of transmitting position information of said region of the screen and said compressed differential information.~~

12. (Currently amended) A The transmission method for video information according to claim 10, characterized in that said extracted changed region ~~of the screen~~ is a rectangular region including pixels of m rows and n columns (m, n are positive integers of 1 or more, respectively).

13. (Currently amended) A The transmission method for video information according to claim 12. characterized in that said extracted changed region ~~of the screen~~ is a set of pixels

wherein the upper i bits of the row address (in the case that the row address is assumed to be data of h bits, i is a positive integer satisfying $1 \leq i \leq (h-1)$) and the upper j bits of the column address (in the case that the column address is assumed to be data of k bits, j is a positive integer satisfying $1 \leq j \leq (k-1)$) of each pixel on the screen are the same.

14. (Currently amended) A The transmission method for video information according to claim 10, characterized in that information are transmitted by means of a wireless communication in said transmission step.

15. (Currently amended) A The transmission method for video information according to claim 10, further characterized by ~~further having~~:

~~of~~reading out level information of each pixel in the entire region of the screen from said memory part with a frequency of at least once or more for a constant period of time;

~~the entire region level information compression step of~~ compressing the information amount of the level information of each pixel in the entire region of the screen; and

~~the entire region level information transmission step of~~ transmitting identification information for identifying said compressed level information of the entire region of the screen from said compressed level information of the changed region ~~of the screen~~ or from said compressed differential information of the changed region and said compressed level information of the entire region of the screen.

16. (Currently amended) A transmission method for video information characterized by having:

each step of the transmission method for video information according to claim 10;

and

each step of the transmission method for video information according to claim 22.

~~the communication step of receiving said position information of the region of the screen and said compressed level information of the region of the screen;~~

~~the expansion step of expanding said compressed level information of the region of the screen and of outputting level information of each pixel of the region of the screen;~~

~~the memory step of storing the level information of each pixel outputted in said expansion step in a memory part in accordance with said position information of the region of the~~

screen; and

~~the display step of displaying a screen in accordance with the level information of each pixel stored in said memory part.~~

17. (Currently amended) A transmission method for video information characterized by having:

each step of the transmission method for video information according to claim 11;

and

each step of the transmission method for video information according to claim 23.

~~the reception step of receiving said position information of the region of the screen and said compressed differential information;~~

~~the expansion step of expanding said compressed differential information and of generating differential information of level information of each pixel of the extracted region of the screen;~~

~~the level information generation step of generating level information of each pixel based on the differential information of the level information of each pixel generated in said expansion step and the level information of each pixel stored in the memory part~~

~~the memory step of storing the level information of each pixel generated in said level information generation step in said memory part in accordance with said position information of the region of the screen; and~~

~~the display step of displaying a screen in accordance with the level information of each pixel stored in said memory part.~~

18. (Currently amended) A The transmission method for video information according to claim 16, characterized in that said transmission step and said reception step are implemented by means of a wireless communication.

19. (Currently amended) A terminal apparatus for video information characterized by having:

a communication part for receiving position information of a changed region of a ~~screen~~ and compressed level information of each pixel in said changed region of the screen which

are transmitted by a transmission apparatus for video information according to claim 1;

an expansion part for expanding said compressed level information and outputting level information of each pixel in said changed region ~~of the screen~~;

a memory part for storing level information of each pixel in the entire region of the screen and for storing the level information of each pixel outputted by said expansion part in accordance with the position information of said changed region ~~of the screen~~; and

a display part for displaying a screen in accordance with the level information of each pixel stored in said memory part.

20. (Currently amended) A The terminal apparatus for video information according to claim 19 further ~~characterized by having:~~

a level information updating part for updating the level information of each pixel stored in said memory part; characterized in that

the a communication part for receiving receives position information of a region of a screen and compressed differential information which is a compressed difference of the level information of each pixel in said changed region of the screen and transmitted by a transmission apparatus for video information according to claim 2;

an the expansion part for expanding expands said compressed differential information and generating generates differential information of the level information of each pixel in said changed region ~~of the screen~~; and

a memory part for storing level information of each pixel in the entire region of the screen;

a the level information updating part for updating updates the level information of each pixel stored in said memory part based on the position information of the changed region ~~of the screen~~ received by said communication part, the differential information of the level information of each pixel generated by said expansion part and the level information of each pixel stored in said memory part; and

a display part for displaying a screen in accordance with the level information of each pixel stored in said memory part.

21. (Currently amended) A The terminal apparatus for video information according to

claim 19, characterized in that said communication part is a wireless communication part.

22. (Currently amended) A transmission method for video information characterized by having:

a communication step for receiving position information of a changed region of a ~~screen~~ and compressed level information of each pixel in said changed region ~~of the screen~~ which are transmitted by a transmission method for video information according to claim 10;

an expansion step for expanding said compressed level information and outputting level information of each pixel in said changed region ~~of the screen~~;

a memory step for storing the level information of each pixel outputted in said expansion step in a memory part in accordance with the position information of said changed region ~~of a screen~~; and

a display step for displaying a screen in accordance with the level information of each pixel stored in said memory part.

23. (Currently amended) ~~A~~ The transmission method for video information according to claim 22 ~~characterized by further~~ having:

a level information updating step for updating level information of each pixel stored in a memory part, characterized in that the ~~a communication step for receiving receives position information of a region of a screen and~~ compressed differential information which is a compressed difference of the level information of each pixel in said changed region ~~of the screen~~ and transmitted by a transmission method for video information according to claim 11;

~~an~~ the expansion step ~~for expanding expands~~ said compressed differential information and generating differential information of the level information of each pixel in said changed region ~~of the screen~~; and

a the level information updating step ~~for updating updates~~ level information of each pixel stored in a memory part based on the position information of the changed region ~~of the screen~~ received in said communication step, the differential information of the level information of each pixel generated in said expansion step and the level information of each pixel stored in said memory part step; and

~~a display step for displaying a screen in accordance with the level information of~~

~~each pixel stored in said memory part.~~

24. (Currently amended) A The transmission method for video information according to claim 22, characterized in that said communication step is a wireless communication step.